

# Welcome

## *to the Mountains to the Sea Exhibit Hall*

Mountains to the Sea, the Museum's largest gallery, spans the second and third floors and covers approximately 7,000 square feet. This exhibit takes you and your students through selected habitat dioramas—each presenting a snapshot taken in spring—to highlight our state's incredible diversity from the highest mountaintops to the cypress swamps of our Coastal Plain. We took great care to show a realistic assemblage of the plants and animals that inhabit these areas.

During your visit, encourage your students to look carefully for animals and their signs, such as tracks crisscrossing the pathways and nest cavities in trees. Ask them to listen carefully, too. Each diorama has a soundtrack depicting animals found in that habitat—some of which are not in the diorama, but are found in the wild in that environment. Keen observers will even notice how spring lags as they progress across our state from the Coastal Plain, where the trees are almost fully leafed out, up to the spruce-fir habitat, where patches of snow remain and the few deciduous species have not yet leafed out. You might suggest they compare the Piedmont's dogwood trees with those of the mountain cove.

### How did we do it?

A committee of Museum staff, using input from many experts outside the Museum, worked with designers and fabricators to decide what would be represented and which stories we hoped to tell. We took springtime field trips to selected natural areas representing the chosen habitats over a three-year period to photo document plants and animals and to collect plant materials such as small trees and shrubs. We stripped off leaves, fumigated the plants to kill any organisms that might cause decay, and shipped them off to California, where artists repainted them and added artificial leaves. After Museum staff reviewed the work, the refurbished plants were shipped back to the Museum for installation.

### Is it real?

The spruce and fir needles are real, as are many of the grasses—most other plant parts are artificial. All the flowers are artificial; some were made from molds of living plants. We manufactured the larger tree trunks by making molds of the bark of trees found at various sites across North Carolina, then constructing the trees from a plaster and fiberglass mixture. Final paint jobs added the realistic details. The leaf litter is real; we collected it from the appropriate field locations. Most of the mammals and birds are taxidermy mounts. We obtained the specimens from salvaged animals—those from road kills, window kills, and the like. The reptiles and amphibians are models made from casts of preserved specimens. You will find live animals such as fish, reptiles, and amphibians in all the tanks.

### Exploring the dioramas

***Bottomland hardwood swamp forest:*** The high water marks on the cypress and swamp tupelo gum trunks show how these environments are subjected to seasonal flooding. Plants and animals found along our Coastal Plain rivers such as the Roanoke and Cape Fear have adapted to this periodic change in water level. These areas also provide important wildlife habitat for species requiring large tracts of forest such as black bears and neotropical migratory birds. Dominant trees include bald cypress and swamp tupelo gum. Animal highlights include a family of wood ducks (with some ducklings just emerging from their tree cavity nest), a green heron ready to strike at an unsuspecting minnow, and a great blue heron about to enjoy a meal of sunfish. Two barred owls watch over the scene while several species of warblers go about finding food. Inside a large hollow tree, four Eastern big-eared bats are roosting.

***Longleaf pine savanna:*** The blackened tree trunks and ground debris hint at the major theme of this area—the role of fire in maintaining this incredibly diverse habitat. More species of plants exist in a longleaf pine savanna per unit area (on a small scale) than in almost any other habitat. Periodic fire is essential in maintaining this diversity. Without it, shading shrubs and trees quickly take over, crowding out some of the more unusual plant species such as orchids and carnivorous plants. As one ecologist stated, “Taking fire out of the longleaf forest is like taking the rain out of the rain forest.”

For comparison's sake, one side of the diorama depicts an area that burned about three to four weeks ago, while the other side of the diorama shows an area that burned one to two years ago. All five groups of “insect-eating” plants are represented in the diorama: sundews, butterworts, bladderworts, pitcher plants, and Venus' flytraps. Many animal species are also dependent on this vanishing ecosystem, including the endangered red-cockaded woodpecker (look for the nest cavity) and Bachman's sparrow, a skulking ground nester. Another notable species is the black bear cub and sow near the edge of the pocosin—a plant community of thick evergreen vegetation. Dominant plants in the savanna include longleaf pine in its many stages of growth, wiregrass, and a variety of wildflowers including grass pink orchids, orange milkwort, and crow poison.